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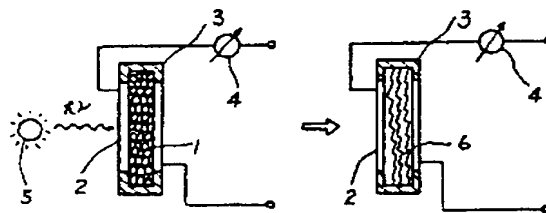
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APPLICANT : HITACHI LTD;

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TITLE : RADIATION DOSE DETECTOR



ABSTRACT : PURPOSE: To miniaturize a radiation detector and to permit embedment of the detector in a material to be irradiated by producing a conductive high- polymer material by radiation polymn. reaction, irradiating the same at a specified dose and obtaining a conduction signal when the polymn. reaction is completed.

CONSTITUTION: Powder 1 of a diacetylene monomolecule is held in place between a pair of electrodes 2 and both terminals are supported by insulating materials 3. The radiation dose detector constituted in such a manner is housed in a box contg. the high-polymer material to be subjected to polymn. or crosslinking reaction or medical apparatus or food to be sterilized and is exposed to γ rays generated from a ray source 5. The powder of the diacetylene alone induces the polymn. reaction and forms a high-polymer crystal 6 when 6×10^4 Gy radiation dose is projected thereon at a room temp. and, therefore, the radiation dose is kept monitored with an ammeter 4 during the projection of the radiation. The radiation dose is detected when the flow of the current above the specified quantity flows as the power has the electrical conductivity upon completion of the polymn.

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